

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An ultrasonic flow sensor, including comprising
 - at least one ultrasonic transducer (A, B) for transmitting and receiving ultrasonic signals (A0, B0), and
 - a receiver unit (4) that is connected to the ultrasonic transducer (A, B) and that detects a predetermined event (N) of the ultrasonic signal (A0, B0) as the a reception time (t_0),
wherein the receiver unit (4) is embodied in such a way that it
determines the a time (t_1) of a value (Amp_{max}, T_s) characteristic of the ultrasonic signal (A0, B0) and determines the as well as a time shift (Δt) of the time (t_1) in relation relative to the reception time (t_0) and
uses the time shift (Δt) to determine a correct time value for the reception time (t_0).
2. (currently amended) The ultrasonic flow sensor as recited in claim 1, wherein the receiver unit (4) determines a maximum amplitude (Amp_{max}) of the ultrasonic signal (A0, B0) as a characteristic value.
3. (currently amended) The ultrasonic flow sensor as recited in claim 1, wherein the receiver unit (4) determines the a chronological position (T_s) of the focal point of either the ultrasonic signal (A0, B0) or its envelope curve (6) as the characteristic value.
4. (currently amended) The ultrasonic flow sensor as recited in claim 1, wherein the receiver unit (4) includes a comparator (10) whose input is supplied with a transducer output signal (5) and a reference signal (SW), and the receiver unit (4) determines a piece of information about the time (t_1) of the characteristic value (Amp_{max}, T_s) from the output signal of the comparator (10).
5. (currently amended) The ultrasonic flow sensor as recited in claim 4,

wherein the reference signal supplied to the comparator (10) is a threshold (SW) not equal to zero and the output signal of the comparator (10) is a pulse width modulated signal (K1) from which the time (t_1) of the characteristic value (Amp_{\max}, T_s) is determined.

6. (previously presented) The ultrasonic flow sensor as recited in claim 1, wherein the reception time (t_0) is corrected as a function of the time shift (Δt).

7. (currently amended) A method for detection of an ultrasonic signal (A_0, B_0) in an ultrasonic transducer (A, B) by means of a receiver unit (4), which detects a predetermined event (N) of the ultrasonic signal (A_0, B_0) as a reception time (t_0), wherein the receiver unit (4) determines the a time (t_1) of a value (Amp_{\max}, T_s) characteristic of the ultrasonic signal (A_0, B_0) and determines the a time shift (Δt) of the time (t_1) in relation to the reception time (t_0) and uses the time shift (Δt) to determine a correct time value for the reception time (t_0).

8. (currently amended) The method as recited in claim 7, wherein the receiver unit (4) determines a maximum amplitude (Amp_{\max}) of the ultrasonic signal (A_0, B_0) as a characteristic value.

9. (currently amended) The method as recited in claim 7, wherein the receiver unit (4) determines the a chronological position of the a focal point of the ultrasonic signal (A_0, B_0) or its envelope curve (6) as a characteristic value.